Claims

[c1]   I Claim:

1. A method to simulate an outdoor scene visible window for a windowless room comprising:

receiving a sequence of outdoor images from a source;

creating a window covering image which is a simulation of a window covering at a certain openness and position of user's preferences;

creating a fixed window image which is a simulation of a real window with window structure includes window edges and window grid;

superimposing said curtain image on said fixed window image to form a static image;

combining current frame of said outdoor images with said static image to form an instant simulation image, said instant simulation image is a simulation of the look of a real window with said window covering opened at a certain position and a openness of user's preferences;

updating said instant simulation image at a frequency of designer's choice;

updating said instant simulation image when either said openness or said position of said window covering image is changed; and

displaying said instant simulation image.

[c2]   2. The window covering in claim 1 include shades, blinds, different styles of curtains, valance and drape combinations and window panels;

[c3]   3. A memory storage to store information about various window coverings and window structure described in claim 1 in terms of parameter values.

[c4]   4. A video signal receiver for receiving the sequence of outdoor images described in claim 1;
said sequence of outdoor images comes from sources include transmitted signal by the wire from an outdoor video camera, the broadcast signal from wireless video cameras through video transmitters, and wired or wireless signal from a computer wherein said sequence of outdoor images is available through any means;

[c5]   5. an image processor for creating the instant simulation image described in claim 1.

[c6]   6. Means to retrieve the information from a memory storage described in claim 3 for displaying a plurality of types, styles and colors of said window coverings and a plurality of types of said window structures in a table, wherein a preferred type, style, color of said window covering and said window structure can be chosen.

[c7]   7. An user interface device, coupled to the image pro-
cessor of claim 5, interactively causes said image pro-
cessor to draw new said instant simulation image
wherein reflects new position of the simulated window
covering changed by the user.

[c8]   8. An user interface device, coupled to the image pro-
cessor of claim 5, interactively causes said image pro-
cessor to draw new said instant simulation image
wherein reflects new openness of the simulated window
covering changed by the user.

[c9]   9. A display monitor, preferably flat in viewing surface
and mountable on the wall, for dynamically displaying
the instant simulation image in claim 1.

[c10]   10. The display monitor described in claim 9 includes
monitor equipped with control circuit to receive and dis-
play television programs.

[c11]   11. The display monitor described in claim 9 includes
monitor equipped with computer hardware and control
circuit capable of carrying out instruction set operations.

[c12]   12. The image processor described in the claim 5 in-
cludes an independent CPU/Memory combination and a
subset of CPU/Memory in a computer with required soft-

ware to achieve the function of creating said instant sim-
ulation image.

[c13]   13. The parameter values in claim 3 comprising:
enumerated values of types, styles and colors of said
window coverings;
enumerated values of types of said window structures;
and
design parameters include number of leaves, size of
leaves and aspect ratio of said window coverings which
are predetermined for matching the size of display
screen.

[c14]   14. An outdoor window simulation system for carrying-
out the method to simulate an outdoor scene visible
window for a windowless room comprising:
a memory storage to store information about various
types window structures, various types, styles and colors
of window coverings.
an I/O interface displaying a table of information about
available choices of type window structures and types,
styles and colors of window coverings;
a video signal receiver to receive image sequence of out-
door scene;
an image processing unit to create the instant simulation
image;
a display unit mountable on the wall and preferably flat

in viewing surface for displaying instant simulation image;

a device controller for adjusting the openness of the simulated window covering on the screen and sending a image redraw request to said image processing unit for updating the instant simulation image;

a device controller for adjusting the position of the window covering on the screen and sending a image redraw request to said image processing unit for updating the instant simulation image; and

a switch device coupled to said display monitor for choosing application mode from available modes of applications;

[c15]   15. An outdoor window simulation system according to claim 14, wherein the available modes of application include:

a simulation mode for the application of displaying instant simulation image; and

at least one more mode of application for displaying non-simulation related application such as TV programs, computer output and other video images.

[c16]   16. An outdoor window simulation system according to claim 14, wherein said display monitor includes monitor equipped with control circuit to receive and display television programs.

[c17]   17. An outdoor window simulation system according to claim 14, herein said display unit includes multiple display devices combined to function together as a system.